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A MALE ERPETOCYPRIS BARBATUS FORBES.

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THE genus *Erpetocypris*, which was established by Messrs. Brady and Norman[1] in 1889, includes certain members of the old genus *Cypris*, which, owing to the fact that the natatory setae of the second antenna are non-plumose and do not reach beyond the tips of the terminal claws, do not swim but creep. Although females of about a dozen species of *Erpetocypris* are known, yet, to the best of my knowledge, no males of this genus have been either described or figured.

Recently, through the kindness of Mr. R. B. Randolph, of Seattle, Wash., I received a few specimens of *Erpetocypris barbatus* Forbes, which the donor had collected from a pond on the trunda near St. Michael, Alaska. This *Erpetocypris*, which was first described by Prof. S. A. Forbes[2] in 1893, is the largest American Ostracod known to science. Professor Forbes discovered it in Yellowstone Park, Wyoming; it has now been found by Mr. R. B. Randolph in the Yukon Valley, Alaska. Apparently all of Professor Forbes's specimens were females; the majority of those sent me by Mr. Randolph were males.

The shell of the male resembles that of the female both in shape and size; the male being 4.07 mm. long and 2.10 mm.

[1] Brady and Norman, "A Monograph on the Marine and Freshwater Ostracoda of the North Atlantic and of Northwestern Europe. Section I, Podocopa," *Sci. Trans. of the Roy. Dublin Soc.* Vol. v (ser. ii), 1889.

[2] Forbes, S. A., "A Preliminary Report on the Aquatic Invertebrate Fauna of Yellowstone National Park, Wyoming, and of the Flathead Region of Montana," *Bull. U. S. Fish Com. for 1891, 1893*, pp. 244-246; Pl. XXXVII, Figs. 3, 4; Pl. XXXVIII, Figs. 5-8.

high, while the female is 4.00 mm. long and 2.00 mm. high. But there are two respects in which the shell of the male differs from that of the female: first, the shell of the female is opaque, or nearly so, but that of the male is so transparent that the testes and appendages may be seen through it; second, there are a few blotches on the outside of the female shell, but on the outer side of the large valves of the male shell, and attached to the dorsal margin of the same, there is a pair of smaller valves. It looks as though the creature had partially sloughed one pair of valves, and then grown a larger pair beneath them. It is well known that certain Cladocera (*Ilyocryptus sordidus* Lievin) have this habit of partially sloughing the lorica and then growing a new one attached to the old; but, so far as I know, this is the first time that an Ostracod has been known to do so.

FIG. 1.

The first antennae of both male and female are alike; but the second antenna of the male, unlike that of the female, has a slender ultimate joint, and the three terminal claws arise from the penultimate segment (Fig. 1).

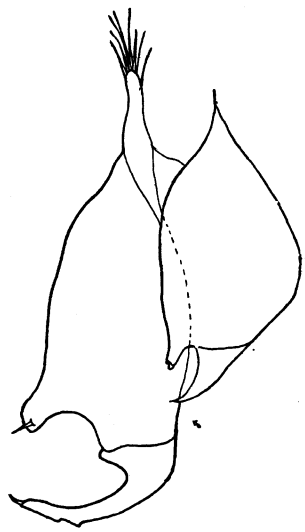

FIG. 2.

The first maxilla of the male is similar to that of the female, the two large claws being smooth; but, as usual among male Ostracods, the second maxillae of the male are modified for clasping. The structure of the male maxillae is illustrated in Fig. 2. Fig. 2 also shows the difference in size

between the two male maxillae. The structure of the legs is practically the same in both male and female. The same may be said of the abdominal rami, although those of the male are a trifle longer and more sinuous than those of the female.

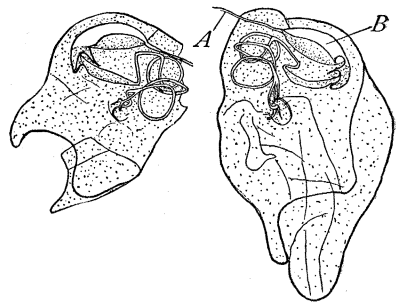

FIG. 3.

The copulatory organs, the structure of which is depicted in Fig. 3, are quite large, and, as usual in male Ostracods, of unequal size. The following table contains the dimensions of the copulatory organs of five different individuals.

		1 mm.	2 mm.	3 mm.	4 mm.	5 mm.
Larger organ	Length	1.58	1.77	1.64	1.90	1.58
	Width	0.98	0.92	0.92	0.98	0.85
Smaller organ	Length	1.28	1.44	1.31	1.71	
	Width	0.85	0.85	0.92	1.05	

It will be seen at a glance that the ratio of the width to the length is much greater for the smaller than for the larger organ of the same individual.

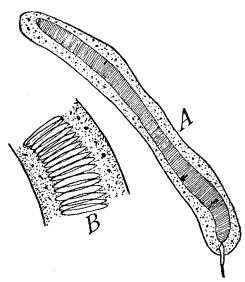

FIG. 4.

The vas deferens, shortly after entering the proximal end of the copulatory organ, forms an irregular enlargement (Fig. 3, *B*). After leaving the small distal end of this portion, the vas deferens coils into a loose knot before terminating, near the middle of the organ, in two or three tubes.

Zenker's organ (Fig. 4, *A*) is about nine times as long as wide, being 0.81 mm. long and 0.09 mm. wide. Its structure is simpler than the corresponding organ of any other Ostracod known to me. The central core is composed of a series of narrow rings, arranged one in front of the

other (Fig. 4, *B*), but neither spines nor other structures project outwards (laterad) from it to the wall of the capsule.

The testis lies within the wall of the shell and consists of four concentric, unequal-armed, *U*-shaped tubes, which lie above (dorsad of) the lateral diverticulum of the digestive tract. The shorter arm of the *U*, which is situated above (dorsad of) the long arm, is from one-third to one-half as long as the other arm. Each tube is broadest at the free end of the longer arm, from which extremity it gradually tapers to the free end of the shorter arm, where it terminates in a point. Judging from a half dozen specimens examined, the sperm mother-cells are confined to the smaller arm, and the crook which unites that arm to the longer limb of the *U*. Usually there is a pair of testes, one in each valve of the shell; but in one of the specimens examined there was a well-developed testis in one valve, but not even a trace of a testis in the other.

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